

Remarks:

This amendment is submitted in an earnest effort to advance this case to issue without delay.

The claims have been amended to overcome the §112 problems.

With respect to the term "impression," it is used here in the standard meaning for dentistry. Thus an impression is an accurate representation or model of part or all of a person's dentition and other areas of the mouth as formed from a cast of a three-dimensional "negative" of a person's teeth and gums, so that the "impression" or model accurately represents the person's dentition and often also the adjacent soft-tissue areas. Making an "impression" is a standard process and has long been used for the fabrication of dentures, crowns or other prostheses. If the examiner would prefer, the more generic nondental term "model" could be substituted for "impression."

The instant invention is a method that is used in the manufacture of a denture that is to be set on implants in a patient's mouth.

When setting a dental prosthesis on implanted screws it is normally necessary to make a drilling template that allows

osteotomies or precision holes to be drilled into the jaw so as to avoid delicate structures like, for instance, the inferior alveolar nerve. This drilling process has to be done very precisely, so use is normally made of a custom drilling template. If the patient has a number of sound teeth, it is relatively easy to create a model or impression that allows the manufacture of a drilling template that can be fitted to these sound teeth. For an edentate jaw it is very difficult to accurately position the drilling template.

This problem is solved according to the invention by setting at least three temporary positioning screws in the edentate jaw, then making the impression. The impression then itself is fitted with positioning screws in the orientation they are to have in the patient's jaw, for instance based on a CAT scan of the jaw locating regions that can hold the positioning screws. Then a drilling or transfer template is created on this impression. Subsequently this template is used to accurately drill the patient's jaw and to prepare the dental prosthesis. Since the originally set positioning screws are still in the patient's jaw, it is possible to set the template in place with the same high degree of accuracy as if it were being fitted to the patient's own solid teeth, not just over the patient's soft tissue. As a result the template is perfectly positioned so that the implants can be set in the more critical regions for the anchoring of a full-mouth prosthesis.

Once the implant holes are made, the template is removed from the patient's jaw and the positioning screws are extracted. After osseointegration of the implants and healing of the jaw, the prosthesis is fitted to the implants. These two steps are now defined in the main claim.

Thus according to the invention these positioning screws are not implants; instead they are temporary mounts for the drilling or transfer template. The drilling template makes it possible for the dentist to accurately drill the required anchor holes for the implants while the transfer template is used in the subsequent fabrication and installation of the prosthesis.

This is nothing like the procedure described in US 2002/0039718 of Kwan. Simply put, Kwan involves the use of permanent implants with various fittings, but in no way suggests setting positioning screws and subsequently removing them.

Kwan teaches a universal implant system that does not use a drilling template, but a rule-of-thumb placement of the anchor holes or osteotomies. The set implants have so-called healing balls that are used to locate in the subsequent impression the location of the implants. The temporary elements fitted atop Kwan's implants serve to compensate for incorrect displacement of the implants.

The system of Kwan is, compared with that of the instant invention, quite imprecise and not suitable for patients having bone issues requiring very accurate placement of the implants. Not only does imprecise placement of implants in such patients lead to poorly anchored implants and even injury, but the implants can be improperly loaded when the prosthesis is installed and fail.

In Kwan there is no step of reproducing the locations of removable and temporary positioning screws in the impression; instead the impression only locates the actual implants. Thus Kwan deals with a system used after the implants are in place, and the instant invention deals with the steps taken before their placement to ensure their accurate placement. Kwan has nothing to do with the fabrication of a drilling template and in fact teaches that using one is not necessary, because the whole thrust of the Kwan publication is to compensate for sloppily or imprecisely installed implants. Thus Kwan teaches away from the instant invention as now defined in the claims and, therefore, the §102 rejection thereon must fall.

For these reasons all the claims in the case are in condition for allowance. Notice to that effect is earnestly solicited.

If only minor problems that could be corrected by means of a telephone conference stand in the way of allowance of this

case, the examiner is invited to call the undersigned to make the necessary corrections.

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